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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,546	04/19/2004	Kern W. Wong	P05310C1	3883
23990	7590	03/24/2006	EXAMINER	
DOCKET CLERK P.O. DRAWER 800889 DALLAS, TX 75380			LAXTON, GARY L	
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			2838	
DATE MAILED: 03/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/828,546	Applicant(s) WONG ET AL.	
	Examiner Gary L. Laxton	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23,24 and 27-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-37 and 40-48 is/are rejected.
- 7) ☒ Claim(s) 23,24,27,38 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 1/04/2006 have been fully considered but they are not persuasive.

Firstly, applicant alleges that the examiner acknowledged that Harris fails to disclose a "start circuit" has "an output coupled to (an) output of (an) adjustment circuit," where the "adjustment circuit" has an output coupled to a "current source" and inputs coupled to a "circuit branch" and a "further base-emitter diode." The examiner has not acknowledged such a thing, in fact, such limitations were not missing from the Harris reference. Indeed, as stated in the previous office action, Harris teaches all of the limitations except for a "start circuit having an output coupled to [the] output of [the] adjustment circuit."

Secondly, applicant alleges that the examiner asserted that the Marty reference disclosed all of the limitations (supra) that the Harris reference allegedly failed to disclose. Quite the contrary, the examiner introduced Marty only to provide a teaching of the limitation that the examiner stated was missing from Harris; namely, the limitation of a start circuit having an output coupled to an output of an adjustment circuit.

Therefore, as stated before in the previous office action, Harris does disclose "(an) adjustment circuit," where the "adjustment circuit" has an output coupled to a "current source" and inputs coupled to a "circuit branch" and a "further base-emitter diode." However, as stated in the previous office action, Marty teaches coupling a start

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circuit to an output of an adjustment circuit via an output of the start circuit in order to ensure proper startup of a regulator circuit. Therefore, as stated in the previous office action, it would have been obvious to one having ordinary skill in the art at the time of the invention to couple a start circuit output to the output of an adjustment circuit in order to ensure proper startup of the regulator circuit.

The examiner is not attempting to swap circuit components between Harris and Marty. The examiner is merely proposing that it would have been obvious to couple a start circuit to the output of an adjustment circuit in Harris as taught by Marty, since Mary teaches coupling a start circuit to an adjustment circuit because Marty understands that without a start up circuit connected in that configuration renders a circuit unstable as the same in the instant invention.

Furthermore, concerning applicant's argument that the office fails to explain why the statement that a reference voltage could be obtained from a band gap type circuit would motivate someone skilled in the art to use the start up circuit of Mary in the band gap voltage reference circuit of Harris; this argument makes no sense. First of all, reference circuitry and band gap circuitry are the same type of circuits. One of ordinary skill in the art would look to band gap circuits and reference voltage circuits for anticipated disclosure or novelty since they are the same type of circuits. In other words, a band gap type circuit produces a reference voltage; therefore, both circuits are necessarily relevant to one another. And one of ordinary skill in the art would be inclined to notice the teachings of both types of circuits.

In regards to applicant's argument concerning claims 44 and 45, that the correction circuit of King does not "at least partially offset a drop off in a reference voltage caused by a base emitter diode, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). In other words, King does use a correction circuit to at least partially offset a drop off in a reference voltage caused by a base emitter diode since it is well known that a temperature change in a diode causes changes in the operating characteristics of the device such as voltage fluctuations.

Claim Objections

2. Claims 23, 24, 27, 38, 39 and 46 are objected to because of the following informalities:

Claims 23 and 38 recite the limitation "an output" in lines 16 and 22 respectively. There is insufficient antecedent basis for this limitation in the claim. Several "outputs" were previously recited in both claims. It is unclear which "output" the applicant is referring to. Claims 24, 27 and 39 inherit the same through dependency.

Claim 46 recites "possible operating states" and "possible values". These limitations are not positive recitations. If the operating states and values are only possible, then they may or may not even exist at all.

If follows then that the limitation, "operation in one of the operating states" in line 12, lacks antecedent basis in the claim since the states are only possible and not actual.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 28, 29, 33, 36, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (US 6,362,612) in view of Marty (US 6,445,167).

Harris discloses a bandgap reference circuit having a current source (M2); a circuit branch (R2, Q2) with positive and negative temperature coefficients as claimed; further base emitter diode (Q1); adjustment circuit (120).

However, Harris does not disclose a startup circuit.

Marty a regulator circuit including a startup circuit (20) connected to the output of an adjustment circuit (5) for ensuring proper startup of the regulator circuit.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris to include a startup circuit to ensure the proper startup of the circuit as taught by Marty.

5. Claims 30, 31, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (US 6,362,612) and Marty (US 6,445,167) in view of Yu (US 5,867,013).

Harris and Marty disclose the claimed subject matter in regards to claim 28 supra except for the startup circuit injects a current into the emitter of the further base emitter diode.

Yu teaches a bandgap reference circuit having a startup circuit (44) connected to an input of an adjustment circuit (32) for injecting a starting current in the emitter of a further base emitter diode (40) to ensure a proper startup of the bandgap reference circuit.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris and Marty to operate the startup circuit to inject a current into the emitter of the further base emitter diode as taught by Yu to ensure a proper startup of the bandgap reference circuit.

6. Claims 32 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (US 6,362,612) and Marty (US 6,445,167) in view of King et al (US 5,471,131).

Harris and Marty disclose the claimed subject matter in regards to claim 28 supra except for a correction circuit for offsetting a voltage drop in the bandgap circuit.

King et al teaches using a correction circuit for correcting a voltage drop in a bandgap circuit.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris and Marty to include a correction circuit for correcting

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a voltage drop in the bandgap reference circuit in order to produce the proper voltage at the output of the reference circuit as taught by King et al.

7. Claims 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (US 6,362,612) in view of Marty (US 6,445,167) and further in view of May (US 6,362,605).

Harris discloses a bandgap reference circuit having a current source (M2); a circuit branch (R2, Q2) with positive and negative temperature coefficients as claimed; further base emitter diode (Q1); adjustment circuit (120).

However, Harris does not disclose a startup circuit and does not disclose a cellular telephone with analog to digital circuitry and regulation circuitry.

Marty a regulator circuit including a startup circuit (20) connected to the output of an adjustment circuit (5) for ensuring proper startup of the regulator circuit.

May teaches an integrated circuit for a cellular telephone comprising regulation circuitry and a bandgap circuit; and furthermore, May discloses analog to digital circuitry for converting analog signals to digital signals to be used by the integrated circuitry.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris to include a startup circuit to ensure the proper startup of the bandgap reference circuit as taught by Marty; and it would have been obvious to modify Harris and Marty to include analog to digital circuitry and regulation circuitry to be used in a cellular telephone in order to converter and regulate analog signals into digital signals to be used

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by the cellular telephone integrated circuitry for proper operation of the telephone by providing proper regulated current and voltages to the circuitry.

8. Claims 42, 43 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (US 6,362,612), Marty (US 6,445,167) and May (US 6,362,605) in view of King et al (US 5,471,131).

Harris, Marty and May disclose the claimed subject matter in regards to claim 40 supra except for a correction circuit for offsetting a voltage drop in the bandgap circuit.

King et al teaches using a correction circuit for correcting a voltage drop in a bandgap circuit.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris, Marty and May to include a correction circuit for correcting a voltage drop in the bandgap reference circuit in order to produce the proper voltage at the output of the reference circuit as taught by King et al.

9. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (US 6,362,612) in view of King et al (US 5,471,131).

Harris discloses a bandgap reference circuit having a current source (M2); a circuit branch (R2, Q2) with positive and negative temperature coefficients as claimed; further base emitter diode (Q1); adjustment circuit (120).

King et al teaches using a correction circuit for correcting a voltage drop in a bandgap circuit.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris to include a correction circuit for correcting a voltage drop in the bandgap reference circuit in order to produce the proper voltage at the output of the reference circuit as taught by King et al.

10. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (US 6,362,612) and King et al (US 5,471,131) in view of May (US 6,362,605).

Harris discloses a bandgap reference circuit having a current source (M2); a circuit branch (R2, Q2) with positive and negative temperature coefficients as claimed; further base emitter diode (Q1); adjustment circuit (120).

King et al teaches using a correction circuit for correcting a voltage drop in a bandgap circuit.

May teaches an integrated circuit for a cellular telephone comprising regulation circuitry and a bandgap circuit; and furthermore, May discloses analog to digital circuitry for converting analog signals to digital signals to be used by the integrated circuitry.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris to include a correction circuit for correcting a voltage drop in the bandgap reference circuit in order to produce the proper voltage at the output of the reference circuit as taught by King et al; and it would have been obvious to modify Harris and King et al to include analog to digital circuitry and regulation circuitry to be used in a cellular telephone in order to converter and regulate analog signals into digital signals to be used by the

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cellular telephone integrated circuitry for proper operation of the telephone by providing proper regulated current and voltages to the circuitry.

Allowable Subject Matter

11. Claims 23, 24, 27, 38 and 39 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action supra.

12. The following is a statement of reasons for the indication of allowable subject matter: the reasons for the indication of allowable subject matter remains the same as stated in the previous office action dated 10/06/2005.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (571) 272-2079. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on (571) 272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gary L. Laxton
Primary Examiner
Art Unit 2838

3/17/2006